

REMARKS/ARGUMENTS

Reconsideration and allowance of the present application based on the following remarks are respectfully requested. Claims 1-2 and 4-23 are pending.

Claims 1-2, 5 and 20-21 have been rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent 6,288,012 to Li ("Li") in view of Dickey, *Kirk-Othmer Encyclopedia of Chemical Technology* 4th ed., Vol. 15, in *Lubrication and Lubricants*, p. 33 ("Dickey") and U.S. Patent 4,094,799 to De Vries ("De Vries"). Claims 1-2, 4, 6, 9 and 20-23 have been rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent 4,715,972 to Pacholke in view of Dickey, U.S. Patent 5,652,201 to Papay ("Papay") and De Vries. Claims 7-8 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Pacholke in view of Dickey, Papay and further in view of U.S. Patent 5,780,399 to Ishikawa ("Ishikawa"). Claims 10-13 and 15-19 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Pacholke in view of Dickey, Papay and further in view of U.S. Patent 3,313,727 to Peeler ("Peeler"). Claim 14 has been rejected under 35 U.S.C. § 103(a) as unpatentable over Pacholke in view of Dickey, Papay, Peeler and further in view of U.S. Patent 5,641,730 to Brown ("Brown").

Respectfully, the Examiner's proposed combinations of the various references for each rejection and the Examiner's reason to combine the elements of these references are mere conclusory statements and fail to satisfy the requirements for establishing obviousness as set out in the Supreme Court's ruling in *KSR Int'l Co. v. Teleflex*. Specifically, the Supreme Court indicated:

Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the market place; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. . . . 'Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness'. (*emphasis added, citations and parentheses omitted*)¹

Respectfully, each of the Examiner's theoretical combinations of three or more references is predicated on conclusory statements and the Examiner has failed to provide a rational underpinning to support a legal conclusion of obviousness.

For example, in the first rejection (Li in view of Dickey and De Vries), the Examiner asserts that Li teaches all of the limitations of the relevant claims except for hexagonal boron nitride and particle size and relies on Dickey as indicating that hexagonal boron nitride

¹ *KSR Int'l Co. v. Teleflex*, 550 U.S. ___, 127 S. Ct. 1727, 1741 (2007).

provides "excellent lubrication" and relies on De Vries for particle sizes of boron nitride (but not hexagonal boron nitride). See *Office Action* at page 2. Without agreeing to the Examiner's characterizations of these references, Applicants respectfully submit that Li specifically states "The present invention is advantageous as compared to prior aqueous lubricants because the substantially non-aqueous lubricants have . . . superior lubricity." Accordingly, the Examiner's statement that "[i]t would have been obvious to one of ordinary skill in the art to include in the additive composition taught by Pacholke, Dickey and Papay² a boron nitride with the small particle size taught by De Vries, in order to impart superior lubricity to the composition . . ." (See *Office Action* at page 2) ", in addition to being merely conclusory is not reasonable, i.e. not rational, given that the compositions of Li purportedly *already* have superior lubricity. In view of this, it would not be obvious to one of ordinary skill in the art to modify *anything* in Li to achieve superior lubricity and in fact, Li teaches that there is no need to modify its compositions to do so. Accordingly, the Examiner's merely conclusory statement fails to establish any "rational underpinning to support the legal conclusion of obviousness" as required by the Supreme Court in *KSR*. Finally, the Examiner fails to establish that such a combination would have a reasonable expectation of success as is also required. For at least these reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

Similarly, with respect to the second rejection (Pacholke in view of Dickey, Papay and De Vries), the Examiner asserts that Pacholke "does not specifically disclose hexagonal boron nitride", "does not disclose the further addition of a polymethacrylate or a dispersant olefin copolymer, and "does not disclose a particle size distribution for the boron nitride". The Examiner next relies on Dickey as described above for the first rejection, relies on Papay as disclosing non-dispersant and dispersant polymethacrylates and relies on De Vries as described above in the first rejection. The Examiner, next proceeds to assert:

It would have been obvious to one of ordinary skill in the art to use the hexagonal boron nitride disclosed by Pacholke in order to gain extra lubricity based on the teaching of Dickey. It would have been obvious to one of ordinary skill in the art to add the viscosity index improvers of Papay to the composition of Pacholke in order to improve the viscosity properties of the lubricant at high and low temperatures and also to impart dispersancy. It would have been obvious to one of ordinary skill in the art to include a boron nitride with the small particle size taught by De Vries in order to impart superior lubricity to the composition.

² Applicants have assumed that the Examiner meant Li and Dickey at this point in the *Office Action*, rather than these three references. See *Office Action* at pages 1-2.

See *Office Action* at page 6. Once again, the Examiner relies on merely conclusory statements that are not supported by the references themselves and that fail to meet the Examiner's burden. Specifically, Pacholke discusses that increasing the stability of dispersions of solid lubricants in gear oil provides enhanced anti-wear properties (lubricity) and extreme pressure benefits. See *Pacholke* at column 1, lines 7-10. Pacholke thus proceeds to identify a solid lubricant additive that exhibits "excellent dispersion of the solid particles [of the additive] and outstanding water demulsibility characteristics." See *Pacholke* at column 3, lines 6-8. Accordingly, Pacholke indicates that it provides enhanced lubricity and extreme pressure benefits by creating more stable dispersions. As with Li, the Examiner has failed to provide any rational underpinning for why one of ordinary skill in the art would attempt to improve the lubricity of a lubricant additive that already achieves the antiwear benefits of solid lubricants, by combining the compositions of Pacholke with Dickey and De Vries or that such a combination would have a reasonable expectation of success. Furthermore, the Examiner has failed to provide any rational underpinning for why one of ordinary skill in the art would attempt to improve the dispersancy of a lubricant that already "exhibits excellent dispersion of the solid [lubricant] particles" by combining the disclosures of Pacholke with those of Papay, Dickey and De Vries or that such an attempt would have a reasonable expectation of success. Moreover, Pacholke specifically indicates that use of a stabilizer that is a copolymer of methacrylate in a gear oil composition exhibited poor stability and was deemed unsuitable. Accordingly, Pacholke teaches away from combining its compositions with methacrylates as relied on by the Examiner in Papay and there is no rational underpinning for such a combination and no reasonable expectation of success in making an effective lubricant composition using such a combination.

In summary, the Examiner's merely conclusory statements regarding reasons for combining Pacholke, Dickey, De Vries and Papay fail to establish any "rational underpinning to support the legal conclusion of obviousness" as required by the Supreme Court in *KSR* and the Examiner fails to establish that such a combination would have a reasonable expectation of success as is also required. For at least these reasons, Applicant's respectfully request reconsideration and withdrawal of this rejection.

Each of the remaining rejections relies on the improper combination of Pacholke, Dickey, De Vries and Papay in combination with at least one additional reference. As discussed above, the Examiner has failed to provide any rational underpinning or a reasonable expectation of success for combining Pacholke, Dickey, De Vries and Papay. The Examiner's purported reasons for adding Ishikawa, Peeler and/or Brown to the combination of Pacholke, Dickey, De Vries and Papay fail for the same reasons.

The Examiner relies on Ishikawa in an attempt to add a non-dispersant polymethacrylate having short, medium or long hydrocarbon chain lengths to enhance "viscosity-temperature behavior and perhaps enhanced dispersancy" to the improper combination of Pacholke, Dickey, De Vries and Papay. As indicated above, Pacholke teaches away from adding methacrylates to its composition and Pacholke already teaches compositions that have enhanced dispersancy, so the Examiner has failed to provide any rational underpinning for the proposed combination, is merely making conclusory statements, and has failed to demonstrate any reasonable expectation of success. Moreover, Ishikawa fails to cure the underlying deficiencies of the combination of Pacholke, Dickey, De Vries and Papay. For at least these reasons, Applicant's respectfully request reconsideration and withdrawal of this rejection.

The Examiner relies on the addition of Peeler to Pacholke, De Vries, Dickey and Papay in an attempt to add a hydrated alkali metal borate "to obtain better extreme pressure lubricating performance . . . and to avoid scuffing at extreme pressures". As indicated above, the compositions of Pacholke already provide enhanced lubricity and extreme pressure benefits by creating more stable dispersions and thus the Examiner has failed to provide any rational underpinning for the proposed combination, is merely making conclusory statements, and has failed to demonstrate any reasonable expectation of success. Moreover, Peeler fails to cure the underlying deficiencies of the combination of Pacholke, Dickey, De Vries and Papay previously discussed. For at least these reasons, Applicant's respectfully request reconsideration and withdrawal of this rejection.

The Examiner relies on the addition of Brown to Peeler, Pacholke, De Vries, Dickey and Papay in an attempt to add a hydrated potassium triborate "due to its favorable extreme pressure properties". As indicated above, the compositions of Pacholke already provide enhanced lubricity and extreme pressure benefits by creating more stable dispersions and thus the Examiner has failed to provide any rational underpinning for the proposed combination, is merely making conclusory statements, and has failed to demonstrate any reasonable expectation of success. Moreover, Brown fails to cure the underlying deficiencies of the combination of Peeler, Pacholke, Dickey, De Vries and Papay previously discussed. . For at least these reasons, Applicant's respectfully request reconsideration and withdrawal of this rejection.

Finally, in each of the Examiner's multiple combination rejections, and in light of the conclusory statements and lack of rational underpinning to support the legal conclusion of obviousness, it becomes clear that the Examiner is using impermissible hindsight to attempt to reconstruct Applicants claimed invention by stitching together individual pieces of cited

references. The Federal Circuit has made it clear, and the Supreme Court has confirmed, that obviousness cannot be established simply by stitching together pieces of prior art using the patent as a template and that doing so is improper. Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1143 (Fed. Cir. 1985); see also Loctite Corp. v. Ultraseal Ltd., 781 F.2d 861, 873 (Fed. Cir. 1985) (denouncing courts' tendency to depart from proper standard of nonobviousness "to the tempting but forbidden zone of hindsight."); In re Fine, 837 F.2d 1071, 1075 (Fed. Cir. 1988) ("One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."). Respectfully, that is exactly what the Examiner has done in this case. For at least this reason, Applicant's respectfully request reconsideration and withdrawal of each of the rejections.

Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned attorney for Applicants at the telephone number indicated below in order to expeditiously resolve any remaining issues.

Respectfully submitted,

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